AMENDMENTS TO THE CLAIMS

Please replace the pending claims with the following claim listing:

1. **(Currently Amended)** A planar lightwave circuit type variable optical attenuator having waveguides formed on a substrate, said variable optical attenuator comprising:

an input waveguide;

a first optical coupler;

a second optical coupler;

two arm waveguides connecting said first optical coupler to said second optical coupler in series; and

an output waveguide, wherein

each of said first optical coupler and said second optical coupler is a directional coupler having a region in which said two arm waveguides are brought in close proximity to each other; and

a polarization mode coupling in said first optical coupler and said second optical coupler is equal to or less than -25 dB.

2. **(Currently Amended)** [[The]] A planar lightwave circuit type variable optical attenuator ~~as claimed in claim 1, wherein~~ having waveguides formed on a substrate, said variable optical attenuator comprising:

an input waveguide;

a first optical coupler;

a second optical coupler;

two arm waveguides connecting said first optical coupler to said second optical coupler; and

an output waveguide, wherein

each of said first optical coupler and said second optical coupler is a directional coupler having a region in which said two arm waveguides are brought in close proximity to each other; and

an absolute value of a waveguide birefringence at optical coupler sections constituting said first optical coupler and said second optical coupler is equal to or greater than 3.5×10^{-4}.

3. **(Currently Amended)** [[The]] A planar lightwave circuit type variable optical attenuator ~~as claimed in claim 1, wherein~~ having waveguides formed on a substrate, said variable optical attenuator comprising:

an input waveguide;

a first optical coupler;

a second optical coupler;

two arm waveguides connecting said first optical coupler to said second optical coupler; and

an output waveguide, wherein

each of said first optical coupler and said second optical coupler is a directional coupler having a region in which said two arm waveguides are brought in close proximity to each other; and

a length of said arm waveguides is designed to be equal to an integer multiple of an optical beat length obtained by dividing a used optical wavelength by the waveguide birefringence.

4. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 2, wherein a length of said arm waveguides is designed to be equal to an integer multiple of an optical beat length obtained by dividing a used optical wavelength by the waveguide birefringence.

5. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 1, wherein

at least one of said two arm waveguides has a phase controller; and

said variable optical attenuator functions as a variable optical attenuator or optical switch.

6. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 2, wherein

at least one of said two arm waveguides has a phase controller; and

said variable optical attenuator functions as a variable optical attenuator or optical switch.

7. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 3, wherein

at least one of said two arm waveguides has a phase controller; and

said variable optical attenuator functions as a variable optical attenuator or optical switch.

8. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 4, wherein

at least one of said two arm waveguides has a phase controller; and

said variable optical attenuator functions as a variable optical attenuator or optical switch.

9. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 1, wherein

said substrate is a silicon substrate, and said waveguides are silica-based glass waveguides.

10. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 2, wherein said substrate is a silicon substrate, and said waveguides are silica-based glass waveguides.

11. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 3, wherein said substrate is a silicon substrate, and said waveguides are silica-based glass waveguides.

12. **(Previously Presented)** The planar lightwave circuit type variable optical attenuator as claimed in claim 4, wherein said substrate is a silicon substrate, and said waveguides are silica-based glass waveguides.

13. **(New)** A planar lightwave circuit type variable optical attenuator having waveguides formed on a substrate, the variable optical attenuator comprising:

an input waveguide;

a first optical coupler having an input portion and an output portion, the input portion of the first optical coupler being optically connected to the input waveguide;

a second optical coupler having an input portion and an output portion;

two arm waveguides, each of the arm waveguides optically connecting the output portion of the first optical coupler to the input portion of the second optical coupler; and

an output waveguide connected to the output portion of the second optical coupler, wherein

each of the first optical coupler and the second optical coupler is a directional coupler having a region in which the two arm waveguides are disposed in close proximity to each other; and

a polarization mode coupling in the first optical coupler and the second optical coupler is equal to or less than -25 dB.